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ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ssiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/652,672	ZIELINSKI ET AL.	
	Examiner	Art Unit	
	Philip C. Lee	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. This action is responsive to the amendment and remarks filed on October 1, 2007.

2. Claims 1-42 are presented for examination.

3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Objection

4. According to page 12 of the Remarks filed on 10/1/2007, applicant agrees with examiner's interpretation of "A computer-readable medium" in claims 30-38 as "computer-readable media" disclosed in paragraph 30 of the specification. Therefore, the objection due to lack of antecedent basis for the term "A computer-readable medium" in the specification is withdrawn. However, the specification is objected to as failing to provide proper antecedent basis for the claimed the term "A computer-readable *storage* medium". See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Since applicant already provided support for the term "A computer-readable medium" above, examiner suggests applicant to amend the term "A computer-readable *storage* medium" to "A computer-readable medium" as originally filed.

Claim Rejections – 35 USC 103

5. Claims 1, 2-7, 10-13, 16, 19-26 and 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty et al, U.S. Patent 6,917,592 (hereinafter Ramankutty) in view of Sitaraman et al, U.S. Patent 7,139,276 (hereinafter Sitaraman).

6. Ramankutty and Sitaraman were cited in the previous office action.

7. As per claim 1, Ramankutty teaches the invention substantially as claimed comprising:

> selecting one of a plurality of tunnel termination devices based on weightings (e.g., Max number of connection, CPU usage, memory usage) associated with each of the plurality of tunnel termination devices (col. 4, line 58-col. 5, line 5) (selecting LNS 110 based on weightings), wherein selecting the one of the plurality of tunnel termination devices is performed prior to establishing any network tunnel with any of the plurality of tunnel termination devices for terminating a subscriber session associated with the subscriber device (col. 5, lines 3-6) (selecting LNS 110 prior to forming a tunnel with the LNS 110) and establishing a network tunnel between the selected one of the plurality of tunnel termination devices and the access concentrator (col. 5, lines 4-5) (forming a tunnel between LAC 102 and LNS 110).

8. Ramankutty does not teach authenticating the user information. Sitaraman teaches receiving a network access request and user information from a subscriber device (col. 7, lines 10-15; col. 9, lines 40-45); authenticating the user information with an

access concentrator of a network service provider (col. 7, lines 10-15; col. 9, lines 40-45); upon authenticating the user information (col. 7, lines 10-15; col. 9, lines 40-45), selecting one of a plurality of tunnel termination devices based on weightings associated with each of the plurality of tunnel termination devices (col. 7, lines 16-22; col. 8, line 64-col. 9, line 7).

9. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman because Sitaraman's teaching of authenticating the user information would increase the efficiency of Ramankutty's system by allowing retrieval of additional details associated with a user based on authentication of user information.

10. As per claim 11, Ramankutty teach the invention substantially as claimed comprising: establishing a communication session with a subscriber device (col. 4, lines 20-28); selecting one of the tunnel termination devices of a set based on weightings (e.g., Max number of connection, CPU usage, memory usage) (col. 4, line 58-col. 5, line 5) (selecting LNS 110 based on weightings);

selecting one of the tunnel termination devices of the set prior to establishing a network tunnel associated with the communication session with any of the plurality of the tunnel termination devices during the communication session (col. 5, lines 3-6) (selecting LNS 110 prior to forming a tunnel with the LNS 110); and

establishing a network tunnel with the selected one of the tunnel termination devices (col. 5, lines 4-5) (forming a tunnel between LAC 102 and LNS 110).

11. Ramankutty does not specifically teach calculating the weightings. Sitaraman teaches comprising:

selecting a set of tunnel from a plurality of tunnel based on a preference level (col. 5, lines 53-64; col. 6, lines 52-62)(selecting tunnels based on criteria of a particular remote domain (e.g., QoS levels or bandwidth));

calculating weightings associated with the tunnel termination devices of the selected set based on a resource constraints for the respective tunnel termination device (col. 8, lines 31-42; col. 8, line 64-col. 9, line 7; col. 6, lines 59-62); and

selecting one of the tunnel termination device of the selected set based on the calculated weightings (col. 8, line 64-col. 9, line 7; col. 5, lines 1-5; col. 6, lines 20-24, 62-65).

12. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman because Sitaraman's teaching of calculating the weightings based on a resources constraint would increase the efficiency of Ramankutty's system by allowing sessions to be shared among tunnels with tunnel termination devices, hence providing relatively efficient utilization of resources.

13. As per claim 19, Ramankutty teaches the invention substantially as claimed comprising one or more processors (inherently comprised); a tunneling module (LAC) executed by the processors to load balance subscriber sessions across a plurality of tunnel termination devices (LNSs 110 and 116) (col. 4, lines 36-45) based on a resource

constraint associated with the tunnel termination devices (col. 4, line 58-col. 5, line 5), wherein for each of the subscriber sessions, the tunneling module selects one of the plurality of tunnel termination devices prior to establishing a network tunnel with any of the plurality of the tunnel termination devices for terminating the subscriber session associated with the subscriber device (col. 5, lines 3-6) (selecting LNS 110 prior to forming a tunnel with the LNS 110).

14. Ramankutty does not specifically teach receive a network access request and user information. Sitaraman teaches a connection handler executed by a processors to receive a network access request and user information from a subscriber device (col. 7, lines 10-15; col. 9, lines 40-45).

15. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman because Sitaraman's teaching of receiving user information would increase the efficiency of Ramankutty's system by allowing retrieval of additional details associated with a user based on authentication of user information.

16. As per claim 30, Ramankutty teaches the invention substantially as claimed comprising instructions to cause a processor (inherently comprised) to:

> select one of a plurality of tunnel termination devices based on weightings (e.g., Max number of connection, CPU usage, memory usage) associated with each of the plurality of tunnel termination devices (col. 4, line 58-col. 5, line 5) (selecting

LNS 110 based on weightings), wherein selection of the one of the plurality of tunnel termination devices is performed prior to establishing a network tunnel with any of the plurality of tunnel termination devices for terminating a subscriber session associated with the subscriber device (col. 5, lines 3-6) (selecting LNS 110 prior to forming a tunnel with the LNS 110); and

establishing a network tunnel between the access concentrator and the selected one of the tunnel termination devices (col. 5, lines 4-5) (forming a tunnel between LAC 102 and LNS 110).

17. Ramankutty does not specifically teach receive a network access request and user information. Sitaraman teaches receiving a network access request and user information from a subscriber device (col. 7, lines 10-15; col. 9, lines 40-45).

18. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman because Sitaraman's teaching of receiving user information would increase the efficiency of Ramankutty's system by allowing retrieval of additional details associated with a user based on authentication of user information.

19. As per claims 2 and 31, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1 and 30 above. Sitaraman further teach calculating the weightings based on a resources constraint associated with each of the plurality of tunnel termination devices (col. 8, line 64-col. 9, line 7).

20. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claims 1 and 30 above.

21. As per claims 3 and 32, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 2 and 31 above. Ramankutty and Sitaraman further teach calculating the weightings based on a maximum number of subscriber sessions supported by each of the plurality of tunnel termination devices (see Ramankutty, col. 5, lines 64-66; see Sitaraman, col. 8, lines 31-42).

22. As per claims 4, 23 and 33, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1, 19 and 30 above. Sitaraman further teach assigning the weightings to the tunnel based on user input (col. 5, lines 53-55; col. 7, lines 10-21; col. 9, lines 40-45).

23. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claims 1, 19 and 30 above.

24. As per claims 5 and 34, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1 and 30 above. Sitaraman further teach comprising:

issuing a query to receive tunnel definitions associated with the user information received from the subscriber device, wherein the tunnel definitions associate each of the plurality of tunnel termination devices with preference levels (col. 9, lines 40-45, 50-55)(query tunnel database to receive selection criteria for determining the best tunnel that fits the SLA associated with user information);

selecting one of the preference levels (col. 5, lines 53-59; col. 6, lines 52-62)(selecting a criteria such as available bandwidth (QoS level), percentage of capacity);

identifying a subset of the plurality of tunnel termination devices associated with the selected one of the preference level (col. 8, line 64-col. 9, line 7)(identifying LNSs associated with the available bandwidth (QoS level) in order to calculate the processing capacity of he LNS CPUs);

calculating the weightings for each of the tunnel termination devices of the identified subset (col. 8, lines 26-28; col. 8, line 64-col. 9, line 7) (Must calculate the processing capacity of the LNS CPUs in order to be weighted); and

selecting one of the plurality of tunnel termination devices of the identified subset based on the calculated weightings (col. 8, line 64-col. 9, line 7) (selecting LNS having high capacity CPU).

25. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claims 1 and 30 above.

26. As per claims 6, 12 and 35, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 5, 11 and 34 above. Sitaraman further teach comprising:

determining a maximum number of subscriber sessions supported by each of the plurality of tunnel of the identified subset (col. 8, lines 31-39); and

calculating the weighting associated with each of the tunnel of the subset as a function of the maximum number of subscriber sessions supported by each of the plurality of tunnel of the identified subset (col. 8, lines 31-39).

27. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason set forth in claims 5, 11 and 34 above.

28. As per claims 7 and 36, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1 and 30 above. Ramankutty further teach wherein establishing a network tunnel comprises establishing a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP) (col. 3, lines 41-42).

29. As per claim 10, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 1 above. Ramankutty further teach wherein selecting one of a plurality of tunnel termination devices comprises selecting one of a plurality of Layer Two Tunneling Protocol (L2TP) Network Servers (LNSs) based on weightings associated with the LNSs (col. 4, line 58-col. 5, line 5), and

wherein establishing a network tunnel comprises establishing an L2TP tunnel with the selected one of the LNSs (col. 5, lines 4-5).

30. As per claim 13, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 12 above. Sitaraman further teach assigning the weightings to the tunnel based on user input (col. 8, lines 31-39).

31. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claim 12 above.

32. As per claim 16, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 11 above. Ramankutty further teach wherein establishing a network tunnel comprises establishing a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP) (col. 3, lines 41-42).

33. As per claim 20, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 19 above. Ramankutty further teach wherein the tunneling module load balances the subscriber sessions across the plurality of tunnel termination devices based on a maximum number of subscriber session supported by each of the tunnel termination devices (col. 4, lines 58-62).

34. As per claim 21, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 19 above. Although Ramankutty teaches selects the one of the plurality of tunnel termination devices as a destination for network tunnels in accordance with weightings (col. 4, line 58-col. 5, line 5) (selecting LNS 110 based on weightings), however, Ramankutty does not teach tunneling module assigns weighting. Sitaraman teaches the tunneling module assigns weightings to the plurality of tunnel (col. 5, lines 53-55).

35. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claim 19 above.

36. As per claim 22, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 21 above. Ramankutty and Sitaraman further teach calculating the weightings based on a maximum number of subscriber sessions supported by each of the plurality of tunnel termination devices (see Ramankutty, col. 5, lines 64-66; see Sitaraman, col. 8, lines 31-42).

37. As per claim 24, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 19 above. Sitaraman further teach an authorization manager that generates data identifying the plurality of tunnel termination device and associating the plurality of tunnel termination devices with subscriber preference levels (col. 8, line 64-col. 9, line 7; col. 6, lines 11-13, 35-40), wherein the tunneling module load balances the

subscriber sessions across the plurality of tunnel termination devices in accordance with the associated subscriber preference levels (col. 8, line 64-col. 9, line 7; col. 6, lines 40-51).

38. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claim 19 above.

39. As per claim 25, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 24 above. Sitaraman further teach wherein the tunneling module identifies a subset of the plurality of tunnel termination devices associated with a current one of the subscriber preference levels (col. 8, line 64-col. 9, line 7; col. 5, lines 59-61; col. 6, lines 57-59), calculates the weightings for each of the tunnel termination devices of the identified subset (col. 8, lines 26-28; col. 8, line 64-col. 9, line 7), and selects one of the tunnel termination devices of the identified subset based on the calculated weightings (col. 8, line 64-col. 9, line 7).

40. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Sitaraman for the same reason as claim 24 above.

41. As per claim 26, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 19 above. Ramankutty further teach wherein establishing a network

tunnel comprises establishing a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP) (col. 3, lines 41-42).

42. As per claim 29, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 19 above. Ramankutty further teach wherein the network device comprises a Layer Two Tunneling Protocol (L2TP) Access Concentrator (LAC), and the tunnel termination devices comprise L2TP Network Servers (LNSs) (fig. 1).

43. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty in view of Dick et al, U.S. Patent Application Publication 2002/0172174 (hereinafter Dick).

44. Dick was cited in the previous office action.

45. As per claim 39, Ramankutty teaches the invention substantially as claimed comprising:

a subscriber device (100, fig. 1); and

a Layer Two Tunneling Protocol (L2TP) Access Concentrator (LAC) (102, fig. 1), and a plurality of L2TP Network Servers (LNSs) (110, 116, fig. 1), wherein the LAC applies a weighted load-balancing process (weighted based on Max number of connections, CPU usage, memory usage) to select one of the LNSs and establish an L2TP tunnel associated with the subscriber device with the selected one of the LNSs (col. 4, lines 36-45; col. 4, line 58-col. 5, line 5) prior to

establishing any L2TP tunnel with any of the plurality of the LNSs for terminating a subscriber session associated with the subscriber device (col. 5, lines 3-6) (selecting LNS 110 prior to forming a tunnel with the LNS 110).

46. Ramankutty does not teach Internet Service Provider (ISP). Dick teaches ISP comprising a Layer Two Tunneling Protocol (L2TP) Access Concentrator (LAC) (102, fig. 1), and a L2TP Network Server (LNSs) ([0127]).

47. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty and Dick because Dick's teaching of ISP would improve the user accessibility in Ramankutty's system by providing access to the Internet for users via the Internet Service Provider.

48. Claims 8, 17, 27 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty and Sitaraman in view of Loehndorf, Jr. et al, U.S. Patent 6,094,437 (hereinafter Loehndorf).

49. Loehndorf was cited in the previous office action.

50. As per claims 8, 17, 27 and 37, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1, 11, 19 and 30 above. Ramankutty and Sitaraman do not specifically teach other types of tunnels. Loehndorf teaches comprising establishing

one of a Multiprotocol Label Switching (MPLS) tunnel, a Generic Routing Encapsulation (GRE) tunnel, and an IP Security (IPSEC) tunnel (col. 4, lines 30-35).

51. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Sitaraman and Loehndorf because Loehndorf's teaching of different types of tunnels would increase the functionality of Ramankutty's and Sitaraman's systems by allowing load-balancing of sessions for different types of tunnels.

52. Claims 9, 18, 28 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty and Sitaraman in view of Gaddis et al, U.S. Patent 6,965,937 (hereinafter Gaddis).

53. Gaddis was cited in the previous office action.

54. As per claims 9, 18, 28 and 38, Ramankutty and Sitaraman teach the invention substantially as claimed in claims 1, 11, 19 and 30 above. Ramankutty and Sitaraman do not teach an edge router. Gaddis teaches establishing a network tunnel from an edge router to the selected tunnel termination device (col. 3, lines 5-8).

55. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Sitaraman and Gaddis because Gaddis's teaching of establishing a network tunnel from an edge router to the

selected tunnel termination device would enhance the communicating mechanism of Ramankutty's and Sitaraman's systems by creating a logical interface on a router that is used to send traffic destined for other endpoints on the network.

56. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty and Sitaraman in view of Bishara, U.S. Patent 7,120,834 (hereinafter Bishara).

57. Bishara was cited in the previous office action.

58. As per claim 14, Ramankutty and Sitaraman teach the invention substantially as claimed in claim 11 above. Although Sitaraman teaches selecting a second one of the tunnel termination devices from the set of tunnel termination devices (col. 5, lines 59-61; col. 6, lines 57-65), however, Ramankutty and Sitaraman do not teach fail-over. Bishara teaches determining whether a fail-over setting is enabled upon failing to establish the network connection with the selected device (col. 7, line 59-col. 8, line 7); and selecting a second one of the devices from the set of devices when the fail-over option is enabled (col. 8, lines 18-25, 40-53).

59. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Sitaraman and Bishara because Bishara's teaching of failover process would increase the reliability of Ramankutty's and Sitaraman's systems by allowing transfer of request from a failed

component to another component in order to ensure uninterrupted data flow and operability.

60. As per claim 15, Ramankutty, Sitaraman and Bishara teach the invention substantially as claimed in claim 14 above. Although Sitaraman teaches updating the preference level (col. 5, lines 53-59; col. 6, lines 52-54); selecting a second set of tunnel termination devices from the plurality of tunnel termination devices based on the updated preference level (col. 5, lines 59-61; col. 6, lines 57-65);
calculating weightings associated with each of the tunnel termination devices of the second set based on resource constraints for the respective tunnel termination device (col. 8, lines 36-42; col. 6, lines 59-62); and
selecting one of the tunnel termination devices of the second set based on the calculated weightings (col. 5, lines 1-5; col. 6, lines 20-24, 62-66), however, Ramankutty and Sitaraman do not teach fail-over. Bishara teaches updating upon failing to establish connection and when the fail-over option is disabled (col. 7, line 59-col. 8, line 17).

61. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Sitaraman and Bishara for the same reason set forth in claim 14 above.

62. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramankutty and Dick in view of Sitaraman.

63. As per claim 40, Ramankutty and Dick teach the invention substantially as claimed in claim 39 above. Ramankutty and Dick do not specifically teach calculating the weightings. Sitaraman teaches calculating the weightings based on a resources constraint associated with each of the plurality of LNSs (col. 8, lines 31-42; col. 8, line 64-col. 9, line 7).

64. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Dick and Sitaraman because Sitaraman's teaching of calculating the weightings for each of the plurality of LNSs based on a resources constraint would increase the efficiency of Ramankutty's and Dick's systems by allowing sessions to be shared among tunnel termination devices, hence providing relatively efficient utilization of resources.

65. As per claim 41, Ramankutty, Dick and Sitaraman teach the invention substantially as claimed in claim 40 above. Ramankutty and Sitaraman further teach calculates the weightings based on a maximum number of subscriber sessions supported by each of the plurality of LNSs (see Ramankutty, col. 5, lines 64-66; see Sitaraman, col. 8, lines 31-42).

66. As per claim 42, Ramankutty and Dick teach the invention substantially as claimed in claim 39 above. Ramankutty and Dick do not teach user input. Sitaraman teaches assigning the weightings to each of the plurality of LNSs based on user input (col. 5, lines 53-55; col. 7, lines 10-21; col. 9, lines 40-45).

67. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Ramankutty, Dick and Sitaraman because Sitaraman's teaching of assigning the weightings based on user input would increase the efficiency of Ramankutty's and Dick's systems by allowing sessions to be shared among tunnels based on user inputs, hence providing relatively efficient utilization of resources.

68. Applicant's arguments with respect to claims 1-42, filed 10/01/07 have been fully considered but they are not persuasive.

69. In the remark, applicant argued that:

(1) The cited prior arts fail to teach authenticating the user information, selecting the one of the plurality of tunnel termination devices prior to establishing a network tunnel with any of the plurality of tunnel termination devices for terminating a subscriber session associated with the subscriber devices.

(2) Sitaraman fails to teach calculating the weightings associated with each of the plurality of the tunnel termination devices.

(3) Sitaraman fails to teach assigning the weightings to the tunnel termination devices based on user input.

(4) Sitaraman fails to teach receiving tunnel definitions that are associated with user information received from a subscriber device.

(5) Sitaraman fails to teach tunnel termination definitions that associate each of the tunnel termination devices with different preference levels.

70. In response to point (1), Ramankutty teaches LAC 102 accepting a reply from LNS 116 to switch to LNS 110 and forming a tunnel with LNS 110 (col. 8, line 64-col. 9, line 7). This means the LAC must select LNS 110 according to the reply prior to establishing the tunnel with LNS 110 for terminating a session.

71. In response to points (2)-(5), Sitaraman teaches a NSP receives a session with user information and queries a tunnel database to determine the "best" tunnel that fits the service level agreement between the NSP and the remote domain (col. 9, lines 40-45, 50-55). The process of determining the best tunnel includes querying selection criteria (col. 5, lines 53-55; col. 7, lines 10-21; col. 9, lines 40-45). This means the receiving selection criteria (tunnel definitions) are associated with the user information received from the user session (user input). Sitaraman further teach selection criteria associate remote domains 300 and 305, which include LNSs (tunnel termination devices), with available bandwidth or percentage of capacity (QoS level) (i.e., termination definitions that associate each of the tunnel termination devices with different preference levels). In addition, Sitaraman teaches calculating the processing capacity of the LNS CPUs for

weighting available bandwidth (col. 8, line 64-col. 9, line 7) (calculating the weightings associated with each of the plurality of the tunnel termination devices). Since the available tunnels with LNSs are determined based on identifying the user information, this means weightings such as the processing capacity of the LNS CPUs are assigned to the available bandwidth of the tunnels with LNSs based on user input.

72. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR)

system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

P.L.

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